

REMARKS/ARGUMENTS

Re-examination and favorable reconsideration are respectfully requested in view of the following comments.

Claims 28 - 63 are pending in the application. Currently, claims 28 - 46 stand rejected. The status of claims 47 - 63 is unclear since the Examiner has not responded to the traverse of the restriction requirement. Thus, each claim has been marked as previously presented.

In the office action mailed September 18, 2008, claims 28 and 30 - 32 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,508,051 to Falla et al. as evidenced by U.S. Patent No. 4,608,836 to MacCracken et al.; claims 29 and 33 - 39 were rejected under 35 U.S.C. 103(a) as being unpatentable over Falla et al. in view of U.S. Patent No. 2,977,729 to Frechtmann et al.; and claims 40 - 46 were rejected under 35 U.S.C. 103(a) as being unpatentable over Falla et al. in view of Frechtmann et al. and further in view of U.S. Patent No. 4,759,814 to Katz.

The foregoing rejections are traversed by the instant response.

Claim 28 is directed to a process for the production of elements made from or comprising a PCM latent heat storing material provided with a sheathing, said process comprising the steps of: extruding a tube from a synthetic material, feeding said PCM latent heat storing material continuously or intermittently, filling or introducing said PCM latent heat storing material into the freshly extruded tube and subdividing the PCM-filled tube into tube sections or storing the PCM-filled tube.

The Falla et al. patent is directed to an environmentally friendly polymer film pouch for consumer

packaging of flowable materials, such as milk, water or orange juice (cf. col. 1, lines 21 - 25; col. 12., lines 20 - 41) and a corresponding manufacturing method, providing higher heat seal temperatures and thus higher machine speeds. The MacCracken patent document refers to a multi-mode off-peak storage heat pump for heating and air-conditioning of buildings. The document discloses in col. 2, lines 45 - 39, that a phase-change material is used in a "low level heat storage container," which is preferably water.

It is well settled law that in order to anticipate a claim, a single reference describe the claimed invention with sufficient precision and detail to establish that the subject matter existed in the prior art. See *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990). The dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference's teaching that every claim limitation was described in that single reference. See *Akamai Technologies, Inc. v. Cable & Wireless Internet Services Inc.*, 344 F.3d 1186, 1192 (Fed. Cir. 2003). To establish anticipation, it must be shown that a single prior art reference describes each and every limitation of a claimed invention. See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). The description in the reference may be either express or inherent. See *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). The absence from the reference of any claim limitation negates anticipation. See *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

It is submitted that Falla et al. does not disclose, either expressly or inherently, the steps of "feeding the PCM latent heat storing material continuously or intermittently," and "filling or introducing said PCM latent heat storing material into the extruded tube."

As noted by the Examiner, Falla et al. discloses a process for production of elements comprising extruding a tube from a synthetic material and filling water into the tube. Water however is not a PCM latent heat storing material. Thus, Falla et al. does not anticipate the subject matter of amended claim 28.

It should be noted that the skilled artisan, an engineer from the field of building or air-conditioning technology, would not consider the described food packaging process of Falla et al., e.g. for orange juice, as being a process for the production of PCM elements according to the invention. With regard to the interpretation of the term "PCM", many chemical substances, including water, have the ability to change its aggregate state, i.e. its phase, and as such could be regarded as a "phase changing material." However, a person of skill in the art would never consider water to be a PCM. The term "PCM" refers to latent heat storage materials and to substances with a high heat of fusion, capable of storing and releasing large amounts of energy. In support of this argument, Applicants enclose an article from Wikipedia entitle to "Phase Change Material." As pointed out in the Characteristics and Classification section of this article, phase change materials "store 5 to 14 times more heat per unit volume than conventional storage materials such as water, masonry, or rock." It follows from this section that phase change materials of

the type set forth in claim 28 are something other than water.

It should also be noted that the Falla et al. patent does not disclose the step of "extruding a tube from a synthetic material" and then filling or introducing the PCM material into the extruded tube. The Falla et al. patent discloses that the packaging pouch is formed from a plastic film structure in a VFFS (Vertical Form, Fill and Seal) packaging process (Column 12, line 62 to column 13, line 7). As described, a sheet of plastic film structure is fed into the VFFS machine, where the sheet is formed into a continuous tube in a tube-forming section by sealing the longitudinal edges of the film together. Afterwards, a pouch is formed by sealing the tube transversely so that the fill material can be introduced. There is no disclosure in Falla et al. that the tube is extruded. The Examiner misapprehends the reference. Column 12, lines 6 - 10 refers to the formation of the film structure, not the formation of the tube or pouch. If one reads column 12, line 32 et seq. of Falla et al., it says that once the film structure for the pouch of the present invention is made, the film structure is cut to the desired width. Thus, it is clear that the preceding paragraph, and the reference to extrusion, refers solely to the formation of the film structure. Thus, even if there were no agreement on the phase change material issue, there can be no question that Falla et al. does not disclose the claimed extruding step.

According to the present invention, the PCM material is directly filled into the freshly extruded tube (see paragraph 0010), omitting the step of separate tube formation, which is a major advantage of the novel

manufacturing process in terms of efficiency, cost and manufacturing time. According to Falla et al., it is necessary to first form a pouch (cf. column 13, line 3) by sealing the longitudinal edges, to fill it and to seal it.

For these reasons, claim 28 is not anticipated by Falla et al. and is therefore allowable. One skilled in the art would not reasonably understand or infer from Falla et al.'s teaching that every claim limitation was described in that reference.

Claims 30 - 32 are allowable for the same reasons as claim 28, as well as on their own accord. For example, there is no disclosure in Falla et al. of filling the tube, after leaving the extruder nozzle and prior to entry into a cooling zone, with PCM (claim 31).

With respect to the rejections under 35 U.S.C. 103(a), the references to Frechtmann et al. and Katz fail to cure the aforementioned deficiencies of Falla et al. Consequently, claims 29 and 33 - 46 are allowable for the same reasons as claim 28 as well as on their own accord.

For the foregoing reasons, the instant application is believed to be in condition for allowance. Such allowance is respectfully solicited.

Should the Examiner believe an additional amendment is needed to place the case in condition for allowance, the Examiner is hereby invited to contact Applicants' attorney at the telephone number listed below.

No fee is believed to be due as a result of this response. Should the Director determine that a fee is due,

he is hereby authorized to charge said fee to Deposit  
Account No. 02-0184.

Respectfully submitted,

DIETER JABLONKA ET AL.

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